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ABSTRACT

The report details the Irish portion of an experiment in tandem language learning by electronic mail (e-mail). The partners were Trinity College, Dublin (Ireland) and Ruhr University, Bochum (Germany), funded by the European Union within the International E-Mail Tandem Network as part of a two-year project. Tandem language learning is a form of open learning in which two individuals with different native languages work together to learn each other's language, in this case, English and German; success depends on adherence to the principles of reciprocity and learner autonomy. The report describes the network and the principles of tandem language learning by e-mail, the organization of this part of the study, including pedagogical design and considerations, the process of affective and linguistic data collection, and data analysis. The linguistic data analysis focused on bilingual skills, language register, discourse fillers, punctuation, explicit coordination between partners, error correction and generalizations made, thematic content, control and critical detachment, use of metalanguage, and accuracy of corrections. Implications for future work in this area are discussed briefly. Contains 10 references. (MSE)

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Centre for Language and Communication Studies

Evaluating tandem language learning by e-mail: report on a bilateral project

David Little, Ema Ushioda,
Marie Christine Appel, John Moran,
Breffni O'Rourke, Klaus Schwienhorst

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Spring 1999

**Evaluating tandem language learning by e-mail:
report on a bilateral project**

by

**David Little, Ema Ushioda, Marie Christine Appel,
John Moran, Breffni O'Rourke and Klaus Schwienhorst**

1 Introduction

by David Little

1.1 The International E-Mail Tandem Network

This report is concerned with the Irish side of an experiment in tandem language learning by e-mail. The partners in the experiment were the Centre for Language and Communication Studies, Trinity College, Dublin, and the Seminar für Sprachlehrforschung, Ruhr-Universität Bochum, and it was undertaken within the International E-Mail Tandem Network as part of a two-year EU-funded project entitled "Telematics for Autonomous and Intercultural Tandem Learning". This project was itself a sequel to the two-year LINGUA project which established the International E-Mail Tandem Network in the first place (see Little and Brammerts 1996). Both projects were co-ordinated from the Ruhr-Universität Bochum by Helmut Brammerts (for further information, see the International E-Mail Tandem Network's Website at <<http://www.slf.ruhr-uni-bochum.de/>>).

1.2 Tandem language learning: basic principles

Tandem language learning is a form of open learning in which two people with different mother tongues work together in order to learn one another's language. Success in tandem learning depends on adherence to the principles of reciprocity and autonomy. The principle of reciprocity requires that both tandem partners commit themselves (i) to their own learning and (ii) to supporting their partner's learning.

The principle of autonomy requires that tandem partners explicitly accept responsibility for their own learning but also (via the principle of reciprocity) for supporting their partner's learning. Being responsible for one's own learning means planning, monitoring and evaluating the learning process overall as well as the succession of activities that make up the learning process. In order to do this efficiently one requires a combination of metacognitive and metalinguistic awareness and skills. Being responsible for one's partner's learning means planning, monitoring and evaluating the various kinds of support one provides for his or her learning. (For a full discussion of learner autonomy in theory and practice, see Little 1991; for a briefer discussion of learner autonomy in relation to tandem language learning, see Little and Brammerts 1996.)

The hypothetical benefits of tandem language learning are three-fold. First, because it proceeds via interaction in the target language, tandem language learning is rooted in language use. Secondly, because both partners are language learners, interaction with a native speaker is more sharply focussed on the learner's needs and interests than is usually the case. Thirdly, because tandem partners are equally committed to the roles of learner and supportive native speaker, tandem language learning provides two perspectives on each partner's target language. One perspective is that of the second language user interacting with a native speaker; the other is that of the native speaker correcting errors in her mother tongue which are in part produced by interference from her partner's mother tongue, which is her target language.

In order to succeed, a tandem partnership requires an effective organizational framework, positive motivation, and a capacity for self-management in learning. Only the most experienced, mature and self-aware language learners are likely to be able to supply these requirements without assistance from others. Thus most successful tandem language learning is organized within the framework of a formal language course, learners derive their motivation partly from the larger learning process in which they are engaged, and their capacity for autonomous learning behaviour develops gradually under the guidance of teachers and/or advisers.

The optimal conditions for face-to-face tandem learning are provided by bringing together two groups of language learners who are mirror images of one another – for example, English-speaking learn-

ers of German and German-speaking learners of English, with closely similar learning targets and roughly the same level of proficiency in their respective target languages. The two groups are taught separately for part of the time, and for part of the time they work in tandem partnerships. Clearly, courses of this kind require special arrangements that can be both expensive and time-consuming to implement. When they involve university students, they usually have to be arranged during vacations, since they require at least one group to travel. No doubt this helps to explain why in its face-to-face form tandem language learning has remained a minority interest.

1.3 Tandem language learning by e-mail

The International E-Mail Tandem Network was established as a means of promoting tandem language learning on a much larger scale, overcoming the need to travel by putting learners in touch with one another by e-mail. However, despite the tendency of e-mail to encourage informal registers, there are two significant differences between face-to-face and e-mail tandem learning, both arising from differences between spoken and written communication.

As we have seen, in its canonical form tandem language learning proceeds on the basis of face-to-face encounters between learning partners. Following the principle of reciprocity, they divide their time together equally between their two mother tongues/target languages. Their learning encounters can focus on any language skill or combination of skills and can use materials in any medium, but their collaborative learning activity is necessarily embedded in oral interaction in which one partner is always the learner and the other the supportive native speaker. This means that in any tandem exchange the native speaker can provide two kinds of support. He can, of course, bring the insights of a native speaker to bear on the learning activities that he is helping the learner to perform. But he can also help the learner to overcome communication problems that arise in the performance of a learning activity. When the medium of tandem language learning is e-mail, on the other hand, the learner must generate her message without the interactive support of her partner. What is more, in face-to-face tandem encounters the native speaker provides the learner with two kinds of corrective feedback, one more or less involuntary and fundamental to all negotiation of meaning between native and non-native speakers, and the other conscious and deliberate. In e-

mail tandem partnerships, on the other hand, feedback and error correction are always conscious and deliberate.

The second important difference between the two modes of tandem language learning has to do with the transience of speech compared with the (at least potential) permanence of writing. Face-to-face tandem encounters may focus on activities that generate written text of one kind or another, so that the learner has something to which he can subsequently refer; but the interaction that is central to oral language use is mostly lost. (It is in principle possible to make an audio recording of a tandem encounter, but to exploit such a recording is a very time-consuming business.) By contrast, all forms of written communication can be preserved. In the case of e-mail, messages can be stored digitally or they can be printed out and filed. Either way, both partners can refer back to earlier messages to remind themselves of specific turns of phrase or how a particular error was corrected.

A third point also needs to be made in relation to the shift from oral to written communication. In face-to-face tandem partnerships, each meeting is divided equally between the two languages in question. In e-mail tandem partnerships, on the other hand, each message must be bilingual, written half in the target language (the language learning role) and half in the mother tongue (the supportive native speaker role).

These differences suggest that tandem language learning by e-mail will have to overcome its own set of problems.

1.4 The Dublin-Bochum sub-project

The International E-Mail Tandem Network offers as one of its central services a "dating agency" that puts would-be tandem language learners in touch with one another; and its Website offers advice to learners and a range of learning activities that they can draw upon to give content, shape and purpose to their learning exchange. However, our work on learner autonomy in other domains of language learning alerted us to the fact that even university students were unlikely to come to tandem learning by e-mail with a fully developed capacity for autonomous learning. If they were to benefit from the peculiar power of tandem learning, it must be carefully embedded in a larger structure of formal learning. This provided the motivation for our collaboration with Bochum.

At the same time, we wanted to know a great deal more about the

nature of tandem language learning by e-mail. That provided the motivation for the research that underlies this report. We wanted to put a carefully devised support structure in place; but we also wanted to evaluate its effectiveness, and in so doing to begin to form a clearer view of what actually goes on in e-mail tandem learning partnerships. From the empirical part of our project we wanted above all to identify issues for further research.

Sections 2, 3 and 4 of this report speak for themselves. Here it is enough to acknowledge our debt of gratitude to the students who participated in our research, persevering with tandem exchanges in sometimes difficult circumstances and allowing us unrestricted access to their correspondence.

2 Organizational framework

by Ema Ushioda, with contributions from Marie Christine Appel and Klaus Schwienhorst

2.1 Introduction

This section of the report describes the organizational framework of our e-mail tandem sub-project. It gives an account of the organizational structures that were developed during the pilot phase of the sub-project (1996-7), and evaluates their implementation in the second year (1997-8). On one level, the development of organizational structures entailed putting in place basic practical arrangements to establish working tandem partnerships for our students. On another level, it entailed setting up an appropriate pedagogical framework for integrating tandem language learning via e-mail into their course of study. These two levels of organization are of course interdependent. Successful integration of e-mail tandem cannot take place without working partnerships. At the same time, partnerships are on the whole unlikely to work effectively and to be sustained without the control of an appropriate pedagogical framework.

2.2 General organizational structures

For the purposes of the sub-project, Irish students taking German language modules at the Centre for Language and Communication Studies (CLCS), Trinity College Dublin, were twinned with Ger-

man students taking the English for International Communication course given by Jackie McPartland at the Seminar für Sprachlehrforschung, Ruhr-Universität Bochum. The courses of study in Dublin and Bochum share a number of features in common, including an emphasis on the development and use of communication skills, a focus on similar topic areas, and cycles of project work. In both institutions, moreover, the courses are taken as optional extras by students who are not studying foreign languages for their degree. The joint scheme thus offered an appropriately controlled context within which to conduct an empirical evaluation of tandem language learning via e-mail and MOOs.*

It is our firm belief that an institutional partnership of this kind is a prerequisite for the successful implementation of e-mail tandem in a course of study. Without such a joint institutional scheme, it seems doubtful whether tandem learning via e-mail can play more than a very minor role in a course of study, since there is no guarantee that all students will have working partnerships or that partners will be fully attuned to each other's language learning needs or fully aware of the principles that should govern their learning partnership. As the following account will show, moreover, very close co-operation is required between the partner institutions through the planning and implementation stages, especially in relation to solving the many practical problems arising in a joint scheme of this kind.

During the pilot year, we became aware of two particular practical difficulties in our bilateral project: the different structures of the academic year in Dublin and Bochum, and the problem of student withdrawal from courses in both institutions. Taking the first of these, we quickly discovered through the pilot year that the differences between Dublin's term and Bochum's semester structure badly disrupted the rhythm of e-mail correspondence. Students would attempt to write, only to discover that their partners were out of e-mail contact because they were on vacation or busy with exams. The principal lesson to be drawn from this was the need to make active use of those periods in the year when reciprocal communication could be guaranteed: specifically, the months of November and February. These restrictions clearly had implications for the pedagogical organization of the project.

* A MOO (Multiple-user domain, Object-Oriented) is a Web-based virtual environment that supports synchronous communication in text rather than speech. For a fuller description, see Schwienhorst (1998).

Related to this problem of synchronization between the two institutions was the difficulty of organizing supplementary MOO sessions on a group or class basis, since classes in the German language modules in Dublin are held in the evenings from 7 to 9 p.m., a time when most other language centres are usually closed. Attempts thus had to be made to schedule MOO meetings during the day, despite the problems this posed for Dublin students, who had full day-time lecture timetables in their main courses of study.

The second obstacle proved to be rather more difficult to overcome, and as our subsequent evaluation will show, it remains a significant problem. In both institutions, the students involved in the sub-project were enrolled in language courses that are extracurricular and optional. This promised to ensure some degree of compatibility in language proficiency levels between the two student groups, since both comprised learners who were non-specialists in their language of study. A major drawback, however, was the inevitable withdrawal of many students in both institutions from the courses in question, leading to the breakdown of tandem partnerships. A two-tier approach was agreed with our partner institution to try to overcome this problem. For the second year of the sub-project, we planned to "double date" the students so that each had two tandem partners to begin with. In this way, students who subsequently lost a partner through withdrawal would still have another tandem partnership to fall back on. In addition, we planned to set up our own bilingual e-mail discussion forum for students in the two institutions, in order to provide a back-up channel of communication for those without working tandem partnerships.

2.3 Pedagogical organization

At the level of pedagogical organization, the principal concerns were to define the role of e-mail tandem in relation to overall course design and content, and to develop appropriate procedures for inducting and supporting tandem learners. One fact to emerge clearly from our experience in the pilot year was the need to assign a central role to tandem learning and make it an integral part of students' coursework, in order to ensure the necessary commitment from those involved. During the pilot year, students were simply encouraged rather than required to use their tandem partnership as an additional support for their language learning. Consequently, the level of tandem

activity was relatively low and it proved very difficult to obtain sufficient samples of e-mail correspondence data for analysis.

This led to our decision to give e-mail tandem a much higher profile in the design of the course in 1997-8. In effect, correspondence with tandem partners was to form an integral element of students' coursework. Our language modules are designed to develop students' communication skills for the purposes of study or work experience abroad, and to foster skills for continued language learning and language use on an autonomous basis. To this end, the modules place a central emphasis on autonomous target language use in class through social interaction, by engaging learners in group-based project work supported by native-speaker student assistants. E-mail tandem offers an individualized extension of this approach to language learning through personal interaction with a native speaker, while project work provides a concrete context and focus for this interaction, and thus serves as an appropriate vehicle for integrating e-mail tandem into the course.

Correspondence with tandem partners was thus explicitly integrated into the preparatory phase of two class projects in 1997-8, one in November and one in February, when communication between partners could be guaranteed. Students were instructed to discuss their project work with their tandem partners, and to seek from them relevant information as well as support and feedback in relation to linguistic issues. Furthermore, they were required to submit their relevant e-mail exchanges in fulfilment of course requirements. It should be added that procedures for collecting e-mail correspondence data, including messages from German partners, were agreed in advance with Bochum.

The content and timing of the projects were thoroughly discussed and negotiated with Jackie McPartland, in order to give tandem partners on both sides a similar learning focus. For example, one of the projects entailed the design and development of a set of Web pages in the target language. The students in Dublin and Bochum both agreed that the Web pages should aim to raise intercultural awareness by focusing on aspects of Irish culture and college life of potential interest to German students and vice versa.

Such, then, was our approach to integrating e-mail tandem into the design of the course in 1997-8. A crucial dimension of this pedagogical framework, however, was the provision of appropriate induction

to tandem partners in both institutions. Discussions with Bochum and experience from the pilot phase suggested that the induction needed to have two focuses: (i) the technical aspects of using e-mail and (ii) the pedagogical principles of tandem language learning. In relation to the former, the kinds of technical help required by students ranged from basic instructions about how to send messages, use the REPLY function, store messages in FOLDERS and submit copies to the tandem co-ordinator, to information and support for live communication sessions in the MOO. In 1997-8, technical induction was provided by means of hands-on introductory sessions at the beginning of the programme, and a booklet giving practical guidelines for working with e-mail and the MOO.

2.4 Induction workshop

The booklet also contained detailed sections on tandem learning principles and procedures for formulating exchanges and handling error correction. These were used as the basis for a special induction workshop preceding the first tandem-supported project in November. The workshop aimed in particular to draw students' attention to the bilingual structure of e-mail tandem messages and to suggest ways of handling feedback and error correction. In order to raise their awareness of these issues, students were asked to analyse a mock exchange between an English-speaking and a German-speaking student which highlighted certain key features of e-mail tandem correspondence, and to discuss approaches to formulating a reply and giving feedback to the German partner.

The induction workshop was conducted by David Little and Klaus Schwienhorst in the presence of the teachers of the German modules. The first part of the workshop introduced students to the central principles of tandem learning – reciprocity, bilingualism, and learner autonomy – and emphasized the need for equality of effort and commitment and acceptance of responsibility for one's own and one's partner's learning. The workshop then focussed on how these principles would be implemented in the e-mail tandem exchange with Bochum. Students were given an account of various aspects of the scheme – the role of tandem correspondence in relation to project work, the system of "double dating" students, the special bilingual discussion forum, and procedures for submitting e-mail correspondence data in fulfilment of course requirements.

The second part of the workshop was devoted to two group work sessions. In the first session, students discussed in groups the likely benefits and problems of a tandem partnership. As likely benefits of tandem work students mentioned the following points:

- similar project work means similar topics of interest;
- more idiomatic German input, especially colloquial expressions;
- more relevant vocabulary and grammar input;
- a more lively interaction;
- immediate responses and corrections (convenience of the e-mail medium);
- intercultural information;
- more motivation for coursework;
- focussed work on special areas, e.g., formal letters.

As likely problems of tandem work students identified:

- time constraints and different term structures;
- difficulties in explaining grammar;
- different age groups and interests;
- differences in L2 proficiency;
- e-mail only supports writing and reading;
- both partners may not invest the same amount of time;
- it may be difficult to understand corrections.

The second group work session focussed on the mock tandem exchange and invited students to consider the following questions:

1. How can you learn from the native speaker's corrections?
2. How can you learn from the native speaker's own German?

The messages in the mock exchange mostly used an interlinear model of correction with arrows (>) and sometimes spaces and tabs, followed by some general comments at the end. In the ensuing discussion, students immediately focussed on corrections and pointed out the various alternatives they would use. In particular, typographical options such as underlining, the use of word processors and attachments, parentheses, etc. were suggested as alternatives. Students also questioned the interlinear model of correction and suggested other possibilities such as intralinear, sentence-by-sentence and paragraph-by-paragraph models. All agreed that a clear separation between original text and correction was helpful. While many thought it would be beneficial to give specific rules and to handle recurrent errors, students were at the same time hesitant about doing so, especially with non-English structures. Some further pointed out that corrections

should explain not only what was technically right but also what was idiomatic. Another important point made was the potentially demoralizing effect of receiving too many corrections.

On the whole, the induction workshop succeeded in generating considerable interest among students in tandem learning, and more unexpectedly, produced a range of alternative models of correction (a variety that was reflected in their subsequent exchanges). Students were clearly aware of the problems and benefits that tandem learning presented to them as native speakers, in particular their ability to identify errors and their inability to identify the sources of errors.

In a follow-up induction workshop, students were given the opportunity of working with a further mock tandem exchange and implementing their own ideas about correction procedures. This follow-up session was conducted by the teachers of their courses. In this context, it should be noted that one significant difference between the institutional set-ups in Bochum and Dublin was that whereas Jackie McPartland not only co-ordinated the e-mail tandem project but also taught the German students participating in it, members of the e-mail tandem research team in Dublin were not directly involved in teaching the Irish students participating in the exchange. The students were spread across four different German modules taught by a team of three native-speaker teachers. This diversification in roles made the implementation of e-mail tandem rather more complex. It created an additional step in the induction process since the teachers themselves needed to be fully briefed on e-mail tandem and its envisaged role in the courses they were delivering. Moreover, it left the research team at one remove from what actually happened in the classroom. In an effort to bridge this gap, our principal tandem co-ordinator (Klaus Schwienhorst) fulfilled a supportive teaching role in one particular German module, thereby maintaining regular face-to-face contact with both students and teacher, and providing additional advisory support for tandem work.

2.5 Evaluation of organizational structures

It should be clear from the preceding account that much work went into developing robust organizational structures and an appropriate pedagogical framework for integrating e-mail tandem. The rigorous measures put in place for 1997-8 were the result of extensive discussions and negotiations with our partner institution through the

pilot phase. In general terms, the relative success of these measures was reflected in the fact that a substantially greater proportion of students submitted e-mail correspondence data in 1997-8 than in the pilot year. This suggested that practical arrangements for setting up working tandem partnerships were improved, and also that the explicit integration of e-mail tandem into students' coursework had the desired effect of encouraging greater levels of tandem activity. There is little doubt that the measures introduced in 1997-8 succeeded in giving a much higher profile to e-mail tandem among the students themselves. Among other things, this was reflected in the worries expressed by those students whose tandem partnerships had broken down and who were therefore unable to submit e-mail correspondence data in relation to their project work.

The breakdown of partnerships proved indeed to be the major stumbling-block. As indicated earlier, student withdrawal from their courses of study in both institutions was and remains a significant obstacle to the establishment of sustained partnerships. Many of those participating in the project failed to get responses from their partner or found that their exchange did not progress beyond one or two introductory messages. It is evident that for students taking extracurricular language programmes, the burden of an already heavy workload means that only the most committed will find the time and energy to devote to language learning, especially to the particular demands of tandem language learning. In this respect, institutional policies on the integration of foreign language programmes (and the consequent reduction of students' workload) clearly have an important role to play in bilateral projects of this kind.

Efforts to "double date" the students so that each had two tandem partners were somewhat hampered in the early stages by the disproportion in numbers between the two student groups. 75 students enrolled in the winter semester of the English for International Communication course in Bochum, whereas almost twice that number enrolled in the four German modules in Dublin. This meant that while Bochum students could be assigned two Dublin partners each, Dublin students were initially assigned one Bochum partner each. As the year progressed and students dropped out and new students were recruited in both institutions, efforts continued until about January to set up additional partnerships for the Dublin students.

In reality, however, achieving a complete one-to-one or one-to-two

system of pairings between two student groups with fluctuating memberships may never be possible. Another avenue worth exploring, and one we certainly considered during the pilot phase, is the setting-up of tandem exchanges between small groups of learners rather than individual partners. This means that tandem learners would address their messages to a group rather than one individual, thereby guaranteeing a response or a set of responses from members of that group. Obvious advantages of this approach would be the likelihood of sustained exchanges despite the withdrawal of one or more members of a group; the variety and richness of the interactions arising from group exchanges; and the possibility for group members to work collaboratively in formulating their messages. One major disadvantage of the approach would seem to be the additional organizational complexity of setting up such exchanges on a group-to-group basis. There might also be a language learning disadvantage, to the extent that the exchange would no longer bring two learners with complementary L1/L2 proficiencies into exclusive interaction with one another.

In terms of individual-to-group correspondence, of course, the bilingual e-mail discussion forum is a channel of communication that is relatively easy to set up. In October 1997, the Dublin-Bochum DUBBO-L mailing-list was established for students in both institutions involved in the sub-project. In principle, its purpose was to provide a back-up channel of communication for students without working tandem partnerships. In practice, however, the level of activity in the forum remained low and petered out in January 1998. In retrospect, it seems likely that students on both sides were not given sufficient encouragement to make more of this opportunity for bilingual discussion. An additional factor may have been that the "double-dating" process reduced the demand for the range of views and perspectives provided by a discussion forum, since many students already had access to more than one set of native-speaker opinions.

Despite the practical obstacles that remain with regard to setting up sustained working partnerships across the board, we are persuaded that the pedagogical framework we have developed is an effective approach to integrating e-mail tandem in a foreign language course. At the same time, we are equally convinced that such an approach can best be implemented if those centrally involved in co-ordinating the tandem project are also involved in delivering the language course in which it is embedded. This would facilitate much closer monitoring of

students' tandem work and enable action to be taken swiftly in the event of partnership breakdown. Such is the research framework we are developing for two bilateral e-mail tandem projects in 1998-9, the first involving Irish learners of Spanish and Spanish learners of English, and the second involving Irish learners of German and German learners of English enrolled in similar degree programmes with an integrated language course.

2.6 Data collection

The organizational perspective clearly represents an important dimension of the overall success of the scheme. Within this framework, however, evaluating the success of the scheme also requires a detailed analysis of students' own learning experiences and learning outcomes. It is to the evaluation of these dimensions that the remainder of this report is devoted. Two principal sources of data were used for this purpose: (i) students' reflections on their tandem learning experience, elicited by means of a self-evaluation questionnaire; and (ii) linguistic data in the shape of e-mail tandem exchanges submitted by students in fulfilment of coursework requirements.

Analysis and discussion of each corpus of data follow in sections 3 and 4 of the report. Here, a brief descriptive overview is provided of the two sets of data gathered.

2.6.1 Affective data

A simple open-ended questionnaire was devised to elicit students' perceptions of their tandem learning experience. A version of the questionnaire was piloted in 1996-7 and modified for the second year of the sub-project, with the number of questions reduced from 20 to 10. The questionnaire was designed to stimulate reflection and encourage students to evaluate their learning experience, rather than to provide reliable measures of attitudes and motivation. For example, open-ended questions prompted students to consider the ways in which they felt their tandem partnership helped them in learning German, how they perceived this mode of learning to be different from others, and what insights they had gained into the German language from reading and correcting their partner's English.

The self-evaluation questionnaire was administered via e-mail at the end of each of the two tandem-supported project cycles in November and February. Completion of the questionnaire was not a coursework requirement, but overall figures suggest that responses were re-

ceived from the majority of those who had working partnerships at the time: 34 students responded altogether, of whom 27 had working partnerships. For the purposes of the evaluative discussion that follows in sections 3 and 4, however, it should be noted that the corpora of affective and linguistic data cannot be treated as relating to exactly the same populations, since not all students submitted both types of data.

2.6.2 Linguistic data

All students enrolled in the German language modules in Dublin were required to submit copies of their e-mail tandem exchanges in relation to each of the two tandem-supported projects during the year. As is clear from the preceding account, however, not all students were able to fulfil this requirement since they did not have working partnerships. A tabular record was kept of all the tandem partnerships formed and e-mail messages submitted during the seven months of the exchange period (November 1997 – May 1998). At the end of this period, the whole corpus of data was carefully examined for the purpose of identifying partnerships that yielded sufficient numbers of messages suitable for analysis. 24 partnerships were identified, containing a total of 194 messages. This data corpus formed the basis for the various analyses presented in section 4.

This corpus was substantially smaller than the actual number of messages written throughout the exchange period. Students were not required to submit copies of all the messages they wrote but a minimum of four in relation to each tandem-supported project. Some submitted more messages than this, while others submitted fewer, often because their partnerships were not working properly or had not generated a sufficient quantity of messages by that stage. The body of linguistic data collected, therefore, was not truly representative of the number of exchanges that took place. In some cases, for example, the messages submitted related to one side of the partnership only, indicating the existence of counterpart messages that were not included in the final data corpus.

3 Affective data analysis

by Ema Ushioda

3.1 Research focus

As indicated in section 2, an important evaluative dimension of the sub-project lies in students' own perceptions of e-mail tandem as a mode of language learning. From the perspective of the student, the affective dimension of any learning experience is without doubt a salient and influential aspect of that experience. How learners feel about what they are doing is likely to have an important impact on the quality of their engagement in the learning process. In this respect, tandem language learning via e-mail confronts learners with a set of expectations and challenges which are largely new, or certainly different from those that they have encountered in their previous language learning experience. In particular, e-mail tandem places specific demands on learners themselves, requiring them to take control of the learning process, to be responsible for their own as well as for their partner's learning, and to give as well as receive linguistic support on a mutual basis. How learners perceive and react to these demands is likely to shape their motivational involvement in tandem learning to a significant extent. Our primary concern was thus to examine what interaction there might be between learners' own expressed attitudes to e-mail tandem and the theoretical principles underpinning this mode of learning.

The questionnaire items designed to probe students' perceptions were couched in open-ended terms and did not explicitly draw attention to tandem learning principles. Instead, they asked students to articulate what they perceived to be the particular benefits, attractions or demerits of this mode of learning in relation to their own immediate experience (see below). The questionnaire was presented to students as a tool for reflection and self-evaluation at the end of each tandem-supported project cycle, rather than as a research instrument. Students were of course conscious of the fact that we had a strong research interest in the data we were gathering, and it is possible that this may have contributed to the production of generally full and considered responses. We would nevertheless argue that the influence of such knowledge was far from being a disadvantage, since it had the desired effect of stimulating serious reflection and raising learner

awareness. The questionnaire comprised the following ten items:

1. *Your name:*
2. *How often on average do you correspond with your e-mail tandem partner? Once a week, twice a week... every day...?*
3. *What kinds of topics have you discussed with your tandem partner?*
4. *What aspects of your German does your tandem partner correct, or help you with most?*
5. *How do you think your tandem partnership helps you in learning German?*
6. *What insights into the German language have you gained (if any) from reading and correcting your tandem partner's English?*
7. *What do you see as the main differences (if any) between tandem language learning via e-mail and other methods of language learning you have encountered?*
8. *Does tandem language learning via e-mail appeal to you? If so, why? Or if not, why not?*
9. *Have you visited the Tandem Language Centre in the MOO virtual reality environment (Diversity University) and engaged in real-time communication with tandem participants? If so, how would you evaluate your experience?*
10. *Finally, if you have any further reflections on your experience as a tandem learner, or any suggestions and ideas for improving aspects of the tandem project, please add them below.*

3.2 Data analysis

Quantitative analysis of the data yielded by the questionnaire was of limited scope and purpose. As already stated in section 2, the questionnaire was not designed to provide measurable indices of attitudes and motivation. Quantification of the data was thus restricted to the descriptive statistics set out in Table 3.1 in relation to overall response rate and responses to item 2 (*How often on average do you correspond with your e-mail tandem partner?*).

A content-based qualitative approach was used to analyse the rest of the data corpus. The analysis initially focussed on the collective set

Number of students who responded altogether:	34
Number of students with working partnerships:	27
Number of students who corresponded less than once a week:	5
Number of students who corresponded once a week:	13
Number of students who corresponded more than once a week:	9

Table 3.1
Summary of descriptive statistics elicited by questionnaire

of responses to each questionnaire item in turn, identifying the range of perceptions elicited and tracing common patterns across each particular data set. These patterns were then used as the basis for characterizing the corpus as a whole, and examining interactions between learner perceptions and the basic theoretical principles at the core of tandem language learning.

In relation to *item 3 (What kinds of topics have you discussed with your tandem partner?)*, students' responses were classified into three main categories: (i) aspects of personal and family life; (ii) aspects of comparison between Ireland and Germany; (iii) aspects of language learning. The first category encompassed the usual introductory topics such as personal and family details, information about the local living environment, weather, subjects of study, hobbies and social life, as well as other topics of personal interest such as holiday plans and plans for the future. The second category involved exchanges of information in relation to various features of Irish and German life, such as the educational system, places to visit, culture and the way of life in general, and discussions about the student strike which took place in Germany in the winter of 1997-8. The third category included discussions about learning languages and about the project work that formed a central component of the language courses in both institutions.

These three categories serve merely to put a descriptive shape on the set of responses as a whole and are by no means defined by hard and fast boundaries. Depending on students' choice of project topic, for example, discussions about project work may lead to discussions about cross-cultural comparisons and/or areas of personal interest.

and experience. One student, for example, tells us that a discussion about his project topic on racism in Ireland led to a series of exchanges on racism issues in Germany, made all the more interesting and personal because his tandem partner was of Indian extraction. What this example serves to illustrate is the way in which the topics that provide the focus of e-mail tandem exchanges tend to have a strong personal dimension. Second language learner-users invariably find it easier to talk about subject matter which they can readily relate to areas of personal experience. This is undoubtedly one of the strengths of tandem learning since it is content-driven and the content is dictated by the partners' own interests and concerns, a point explicitly made by one student:

These e-mails are very different from the text book style content I am more accustomed to reading so the content is more applicable to myself.

As subsequent discussion will show, it is this personal dimension of e-mail tandem which is perceived by learners themselves to have a particularly powerful appeal.

In relation to *item 4 (What aspects of your German does your tandem partner correct, or help you with most?)* and *item 5 (How do you think your tandem partnership helps you in learning German?)*, there was some degree of overlap in the two sets of responses. In response to *item 4*, the majority of students identified the areas of grammar, vocabulary and spelling as the aspects of German where they received help and corrections. In the case of grammar, some responses were more specific than others, highlighting particular difficulties such as word order, case endings, sentence constructions, use of correct verbs, etc. Additional aspects identified included problems with expression and literal translations, as well as help in relation to cultural information.

Help with grammar and vocabulary and access to cultural information were also perceived by a number of students to be among the benefits of their tandem partnership (in response to *item 5*). *Item 5*, however, also generated a range of perceptions which were not focussed on the learning benefits of receiving feedback, correction and information, but rather on the benefits of using the language and of observing it in use. The majority of learners seemed to value their tandem partnership because it gave them regular practice in reading and writing German for a genuine communicative purpose. In particular, they were able to gain insight into how native speakers write and use German.

Perceived benefits on the productive side included greater encouragement to think in German and express themselves in a more German way; increased confidence about taking risks and trying out new phrases; making an effort to think carefully when writing German; developing a facility for operating bilingually.

With regard to language use, a positive feature remarked on by several learners was the fact that e-mail tandem gave them access to a more informal and colloquial form of German. In this respect, they clearly recognized that e-mail as a medium of written language nevertheless has close affinities with the spoken idiom, as is evident from the following comments:

It helps in learning colloquial German and the German that is spoken in Germany as opposed to the German we learn from books.

Everyday German which is more useful in real situations than formal textbook German such as I have always encountered before is used in the e-mails.

I have the opportunity to write German in a conversation style and "chat" so my fluency will improve somewhat.

I am learning a more natural way of speaking/writing German which I would not learn by merely using a book, for example.

Related to this focus on authentic language use was the value attached to the personal dimension of the tandem exchange, and in particular the increased interest in learning and using German that this personal interaction helped to stimulate:

It encourages you to write to a person around your own age and discuss different views – learning German in a more informal way, finding out what the person's life is like in a different environment.

It is much more interesting talking to a person – you get to know them on a personal basis.

I now have a greater interest because I am now interacting in German with a German person as opposed to just reading German literature.

Item 6 asked learners to identify any insights they had gained into the German language from reading and correcting their tandem partner's English. Responses were on the whole expressed in rather general terms, such as increased awareness of the similarities and differences between the two languages, or an understanding of why certain

mistakes in English are frequently made. Some more specific areas of insight mentioned included a better understanding of German word order; identifying differences between the two languages in the use of prepositions; discovering a wider range of meaning for certain German verbs than their English counterparts (e.g., *besuchen* meaning *to attend* as well as *to visit*); deducing new forms of expression in German from their partner's literal translations into English.

Even with this relatively small range of insights, there is evidence that the bilingual principle of e-mail tandem has a powerful role to play in stimulating language awareness and language learning awareness. Here is how one learner puts it:

I think that correcting mistakes and thinking about why they were made in the first place gives me a better understanding of the structure of the language and stops me from making the reverse mistakes when I write German.

At the same time, it seems equally clear that this is an aspect of e-mail tandem where explicit attention and support need to be given to learners, so that they understand how they themselves can and should profit from reading and correcting their partner's English. The failure of some learners to reflect adequately on this process is suggested by the fact that seven of the learners with working partnerships seemed unable to identify any insights at all in response to *item 6*, while two learners gave responses which indicated that they had not understood the question.

Items 7 and 8 asked learners what they perceived to be the main differences between tandem language learning via e-mail and other methods of language learning they had encountered, and whether this method of learning appealed to them or not. In fact, the differences they cited in response to *item 7* were largely those features of e-mail tandem which they also perceived to be among its principal sources of appeal (in response to *item 8*). For this reason, it is perhaps more helpful to consider the two sets of responses together.

Interestingly, perhaps, receiving corrections and feedback did not seem to emerge as a particularly dominant aspect of what students perceived to be different or appealing about tandem learning. The most commonly cited features of e-mail tandem that were perceived to be different from other forms of learning and also its primary attractions were: (i) interest and enjoyment of personal interaction with a native speaker; (ii) access to informal everyday German; (iii) focus on own

needs and interests; (iv) the mutual partnership factor; (v) speed and convenience of e-mail communication. It is clear that these perceptions largely reinforce the patterns that have already begun to emerge in relation to students' general focus of attention on language use, personal interaction and relevance of content:

You get to use the language as a live one.

This is more interactive and social.

There is more emphasis on the informal language, and also it is more interactive.

It is closer to "face to face" and so is more realistic. It also brings me into contact with German that is not taught in the class but which is much used in Germany.

You also get a feel for how native speakers really use their language.

It is different because we write about things that are of interest to ourselves unlike the mundane assignments we are used to completing in secondary school. The same applies to the e-mails we receive – we can relate to them and hence benefit more from them.

You are learning directly with a German person who is living there at present, you can discuss and exchange subjects which interest both you and your partner.

The German I am learning is that which I would use, so it is more aimed at me and less general [...] it is a lot better because it is an interaction with real people (not just books) and the German I use reflects my life, so it is necessary that I learn it correctly.

With this type of learning we have more freedom to talk about what we are interested in. It is more informal and is suited more for individual needs.

The practice of the language, in an environment of students alone talking, is what makes it interesting.

As this last comment suggests, the particular attractions of e-mail tandem were felt to make this method of learning by communication especially interesting. Terms such as "interesting", "fun" and "enjoyable" were used by many students to describe their experiences. Some, however, were conscious of the learning effort involved and in particular the responsibility but also attraction of a shared learning partnership:

Tandem learning gives – in fact demands that the student practise regularly at using the language, by putting the onus on the student to talk with his/her partner (and friend, hopefully).

It's also nice to know that we are both helping each other at the same time.

E-mail is good because you are writing to a person who is basically at the same level as you in language learning. I believe my Tandem Partner is genuinely interested.

It does appeal to me insofar as it's interesting to talk to someone new who is good at German, and in turn to be able to help someone else to improve their English.

I think the tandem e-mail is very good in that our German knowledge is improved by being corrected by a native German speaker and they too benefit. However I think a lot of commitment is needed.

The final distinguishing aspect to be commented on by a number of students was the medium of e-mail itself, and in particular, the speed and convenience of this method of communication:

It is also easier than writing letters on pen and paper, answers are given more quickly, also you can find out information very quickly.

It is very much like a pen-friendship, except that it is more rapid, and that there is bilingualism involved.

It's such a convenient way of communicating with someone – much better than letter writing anyway. And the reply system makes correcting very easy, and you can have all your previous e-mails at your fingertips to refer back to.

The final two questionnaire items asked students to evaluate their experience of any MOO sessions, and invited them to provide any further reflections on their tandem learning experience as a whole, or suggestions for improving the tandem project. In effect, only two of the students who responded had engaged in a MOO session, and one of these commented that it had been interesting and enjoyable and that she would like to learn more about it if she had time.

In fact, lack of time to devote to e-mail tandem proved to be a source of difficulty commented on by a number of learners. Others suggested that more time was needed for partners to get to know one another before focusing on project work. Two also mentioned the desirability of matching partners in terms of age so that more common interests

would be shared. Not surprisingly, perhaps, lack of communication from partners was also cited as a problem area.

3.3 Discussion

A number of interrelating patterns seem to emerge from the data analysis as a whole. Among those who responded, there is little doubt that learners with working tandem partnerships have overwhelmingly positive views of their experience. What they identify as appealing and intrinsically motivating about e-mail tandem relates largely to a *sense of personal ownership of the learning content and process*, since communication is focussed on individual needs and wants, and since the language of communication is close to the preferred informal spoken idiom of student discourse. A related pattern is the general perception that e-mail tandem is predominantly concerned with *language use* (and language in use) as a vehicle for learning, and that this is made interesting and attractive because it involves *personal interaction* with a native speaker on a *mutually supportive basis*.

What these patterns clearly reflect are the principles of self-appropriated learning and shared support which underpin this mode of learning. In other words, the features perceived to be the main sources of attraction in e-mail tandem are also those which we would describe as the main demands it imposes on learners: the requirement that they take charge of the learning process, communicate on a regular basis, and support their partner equally. That there is a notable degree of correspondence here between learner perceptions and tandem principles not only serves to underline the strength of these principles as the foundation of effective tandem learning. More significantly, perhaps, the finding points a way forward in fostering the development of successful tandem partnerships.

As suggested at the beginning of this section, the affective dimension of any learning experience is a salient and influential aspect of that experience. Where tandem language learning via e-mail is concerned, it seems that the affective dimension has a potentially powerful role to play in promoting the practices of learner autonomy and reciprocity on which successful tandem learning is founded. Most importantly, the focus on content and language of personal relevance and interest is undoubtedly a major catalyst for learners' intrinsic motivation, and engaging these intrinsic motivational processes is itself a necessary foundation for autonomous learning (Ushioda 1996).

As with all aspects of autonomous learning, however, reflection has a key role to play in relation to affective learning experience as well (Boud et al. 1985, Ushioda 1996). By getting learners to reflect on their tandem learning experience and to identify its positive aspects and the personal benefits and insights they have gained, we are likely to raise their own awareness of the underlying principles of autonomy and reciprocity since the process encourages them to articulate these basic principles in their own terms. It is perhaps revealing that the corpus of affective data gathered does not include any mention of the terms "autonomy" or "reciprocity", though these terms were certainly employed during the induction workshops, and also highlighted in the opening pages of the printed guide given to students at the beginning of the programme. Yet what students say suggests that they were able to give expression to these principles in their own way, in a manner that was clearly meaningful and relevant to their own individual learning experience.

4 Linguistic data analysis

by John Moran, Breffni O'Rourke and Klaus Schwienhorst

4.1 Introduction

Our interest in carrying out this study was primarily to assess the ability of the organizational framework we developed to support focussed pedagogical tandem correspondences, and further, to characterize along various axes the kind of correspondence that resulted. We do not hope to make definitive statements about the effectiveness of tandem e-mail as a language learning method: given that our programme was embedded, on both sides, in a larger course involving many other pedagogical elements, it seems unlikely that we would be able to isolate specific learning gains attributable solely, or even primarily, to the e-mail exchange. Nor were we interested in a detailed linguistic characterization of the L1 or L2 output of the correspondences. It seems to us that this kind of research lies somewhat further down the road. Rather, our purpose has been to identify aspects of tandem correspondence that are characteristic of this kind of communication, that are indicative of the participants' attitudes towards and understanding of the tandem concept, and that therefore have conse-

quences for the design of future e-mail tandem programmes. The aspects of the data that seemed most salient in this regard, and that are best evidenced, are the following:

- bilingualism;
- language register;
- evidence of explicit co-ordination between partners;
- error correction behaviour.

We have adopted the following conventions for quoting from e-mails: Each partnership is uniquely numbered between #1 and #24. Quotations from the Bochum-based partner in an exchange are identified by the abbreviation *Ge*, and the Dublin-based partners by the abbreviation *Ir*. Proper names in quotations have been replaced with appropriate invented names. E-mails have not been corrected, and the translation into English of some learners' German inevitably involves a degree of guesswork.

4.2 Bilingualism – proportions of L1/L2

We can say that in most exchanges equal amounts of L1 and L2 were used. The figures in Table 4.1 speak for themselves. Around 90% of all e-mails were bilingual, an important foundation for successful tandem work. Without exception, all monolingual e-mails were written in the respective L2. One student complains about the lack of L1 input his partner gives, #18 *Ir* (19 Nov 1997), and #24 *Ge* complains about the lack of L2 output from his partner #24 *Ir* (26 Jan 1998).

	Total (24 exchanges)	German students	Irish students
e-mails	194 (100%)	101 (52.1%)	93 (47.9%)
bilingual	174 (89.7%)	91 (46.9%)	83 (42.8%)
containing correction	88 (45.4%)	49 (25.3%)	39 (20.1%)

Table 4.1
Statistical overview of e-mail exchanges
(all percentages relate to the total number of e-mails sent)

4.3 Language register

This section deals with the issue of register in the sample corpus of linguistic data. The texts are personal correspondences between students and as such the tone in most cases is familiar. This can be seen in the almost completely consistent use of the second person singular *Du* form in German. It is important to bear in mind that this analysis was done in the absence of a comparable corpus of handwritten personal correspondences, so any observations could also turn out to be features of handwritten texts. Furthermore, as the corpus is small any conclusions drawn must be tentative, though it seems to be the case that students used a register which had distinctly oral characteristics. This is consistent with research done by McMurdo (1995), who found that e-mail bears an obvious resemblance to oral conversation which, amongst other factors, may be due to the potential speed of e-mail exchange. This point is illustrated nicely by the following closing remark by the Irish partner in exchange #1:

Talk (or write) to you soon

In fact this closing is echoed several times by other Irish students (exchanges #11, #15, #19 and #23).

A thorough quantitative analysis of register focusing on lexical issues is in this instance impractical because of the small size of the corpus. However, some attention will be given to discourse fillers. Also, because of the close relation of punctuation to oral intonation as a contextual cue, and the fact that non-standard punctuation is a frequently occurring phenomenon in the sample corpus, it makes some sense to investigate it further in the hope that it may throw some light on the (somewhat slippery) issue of oral versus written register in computer-mediated communication (CMC). It is important to state at this point that non-standard punctuation is very much a question of personal style, but it may be supposed that those who do use it are trying to approximate the intonational and prosodic qualities of spoken discourse. This is a feature of e-mail in general and it is reassuring to note that even though the correspondences are part of a formal academic language course, the learners do not hesitate to use an oral style of discourse in a written medium. This point is made explicit in the following request from the German partner in exchange #4:

In your letters please use your "daily" language not the language you use if you write exams for example because I'[m] interested in

learning YOUR language.

4.3.1 Discourse fillers

Discourse fillers are a feature of language to which the learner usually only gets exposure through spoken language. However, the ethereal nature of spoken discourse means that she cannot refer back to previous discourse. The fact that oral discourse fillers like:

#12 Ge

Oooops, I wrote a lot, enough for today I think.

and:

#9 Ge

Warum es den Streik gab, und wie er ausging berichte ich Dir
naechstes Mal, okay??!

*I'll tell you next time why the strike happened and how it ended
okay??!*

are available in written form means that the learner can access the linguistic data at any time. There are also examples of discourse fillers used in the learner's target language:

#1 Ge

Yup, it is. I'm terrible at it! It's a cool game, though, 'cause you don't
have to do a lot if you're losing.

This particular example contains instances of two contractions and two words (*yup* and *cool*) which are features of an oral register. It illustrates the point that learners do take advantage of the opportunity to try out constructions which are appropriate to an oral register.

Furthermore, because the discourse is stored electronically, learners can do string searches on their correspondences. For example, if a learner thinks she "heard" the word "okay" used as an adjective, she could check back on her previously received e-mails and discover the context it was used in.

#9 Ge

Im Moment z.B. weisen die CDU regierten Bundesländer daraufhin,
daß es durchaus okay ist, Kosovo-Albaner Zurückzuschicken

*At the moment the federal states in which the CDU have power say it
is absolutely fine to send Kosovo-Albanians back.*

4.3.2 Non-standard punctuation

Non-standard punctuation is a feature of just over half of the correspondences in the sample. Two possible reasons might be advanced for this. Firstly, in most e-mail client programs the writer cannot normally underline or change the size of the script. These are options available in a normal letter-writing context. Secondly, it is ergonomically easy to hold down an exclamation mark key or press it repeatedly. Non-standard punctuation falls into three categories: *smileys*, **underlines**, and *excessive punctuation*.

Although *smileys*, or emoticons, as described by Hightower and Sayeed (1996, p.463), are a well-recognized discourse element in CMC, they feature in only three of the correspondences (#1, #19, #3). It is worth noting that they are used by #1 Ge 4 times, #3 Ir 9 times and #19 Ge 5 times, but that there is no take-up by their respective partners. They are used primarily to mark jokes by #3 Ir and #19 Ge, and almost exclusively after apologetic statements by #3 Ir. For example:

Also, I am "computer illiterate". :-)

So sorry I haven't written for so long. I have no excuses, apart from tiredness, so I won't make any. :-)

Another e-mail convention is the use of asterisks to "underline" or stress a word. For example:

#3 Ir

Am I **ever** punctual?

Only #3 Ir and #19 Ge used this convention. There was no take up of this device either. This correlates with the use of smileys which indicates that both subjects are acquainted with e-mail discourse conventions.

The excessive use of exclamation marks is by far the most common form of non-standard punctuation in the sample corpus. Although some correspondents, e.g. #1 Ir, relied more heavily on the device than others, each correspondent had their own conventions for when and how to use it to add illocutionary meaning to their discourse. There were only six cases where more than three exclamation marks were used, the most extreme example of this being fourteen in exchange #19:

Ir

I am so sorry that I have not written before now, but I have just figured

out how to use the computers!!!!!!!!!!!!!!

The use of two or three exclamation marks proved to be a question of personal style. For example, #1 Ir favoured two and both #9 Ir, and #9 Ge varied their use:

#9 Ir

Vielen Dank fur Deinen Brief!!! Es hat mir sehr gut gefallen! Deine Englisch ist ausgezeichnet!!

Thank you for your letter!!! I really liked it! Your English is terrific!!

An analysis of the sentiments and communicative intentions expressed by the excessive use of exclamation marks must remain tentative, as some uses are ambiguous with regard to the force of the utterance. For example:

#1 Ir

Ich könnte Medizin nie machen!!!!

I would never be able to do Medicine!!!!

or

I would never want to do Medicine!!!!

There was also some category overlap, for example, expressions of gratitude in a closing sequence. However, Table 4.2 does give some idea of how excessive punctuation was used.

4.3.3 The absence of non-standard punctuation

One partnership that contains no non-standard use of exclamation marks is #7. This partnership featured the oldest participant who quoted her age, a sixty-one-year-old retired secretary studying comparative linguistics. Her partner was a nineteen-year-old Irish science student. This is a good example of a student tailoring the register of her output to suit her partner. #7 Ge initiates the correspondence as follows:

Hallo Shirley,

I'm very glad to have a tandem-partner. I hope, it will not disturb you that I'm not young – to say it clear – I'm 61 years old, married and I have a daughter (but she is married to).

In German the use of the salutation *Hallo* is more consistent with an oral register. The partnership is a successful one, but neither partner oversteps the bounds of familiarity as the following example helps to illustrate:

Communicative intention	No. of occurrences	Example
Apologies	15	I could not get the umlauts etc. to work on this computer, so please excuse their absence!!! (#13 Ir)
Openings	8	Hallo Jenny !!! (#9 Ge)
Closings	8	Frohes Weihnachtsfest und Alles Gute zum Neuen Jahr !!! Bis bald. Take care, Terry. Deine Katarina. (#21 Ge)
Humour	6	hope you get the scholarship and don't party too hard!! (#23 Ge)
Compliment on language competence	5	Ich muss sagen, deine Englisch ist ziemlich ausgezeichnet!! (#9 Ir)
Appreciation	4	Vielen Dank fuer Deinen Brief!!! (#9 Ir)
Various	16	

Table 4.2
Use of two or three exclamation marks

#7 Ir

Warum schrieben sie nicht? Bist Du krank oder hast Du einfach nicht genug seit zu schrieben?

Why have you not written? Are you sick or have you simply not got enough time to write?

Although sie may well be a slip, as indicated by Du in the next sentence and the rest of the correspondence, it may also be an indication that Shirley is taking into account the age and status of her partner. She may also be using the form to minimize the loss of face on the part of #7 Ge by modifying the accusatory nature of the question. Another feature of this partnership is the lack of informal closings and of the excessive or non-standard punctuation which feature so much

in other correspondences. These factors combined would seem to indicate that Shirley, while maintaining a familiar and informal tone, is using a discourse style closer to ordinary letter writing.

4.3.4 Language register – a summary

To sum up, colloquial expressions, discourse fillers and excessive exclamation marks are used by most students to add an informal "oral" quality to their written messages. The non-standard punctuation discussed above seems to be a typographical instantiation of intonational and prosodic phenomena. These paralinguistic cues are not to be found in all correspondences and there is some evidence that students may tailor their register to suit their partner where there is a recognizable generation gap. This has certain consequences for teachers who are using tandem e-mail as part of a structured language course. Students may benefit from instruction in how to express themselves in a manner more akin to the "daily" language of their correspondent. Although teachers may feel that a course in e-mail gives students practice in written language, it may be more advisable to relax the distinction between oral and written registers and allow students the freedom to express themselves in a hybrid style which is becoming conventionalized in CMC (Ferrara et al. 1991).

4.4 Evidence of explicit co-ordination between partners

It has been noted that the three principles underpinning a successful tandem language learning partnership – learner autonomy, reciprocity and bilingualism – mutually constrain and define one another. With respect to the metacognitive aspects of a partnership, it is clear that the learner autonomy/reciprocity nexus in particular is crucial. An autonomous learner, by definition, consciously sets her own learning agenda and gives consideration to the modalities of learning, while in a truly reciprocal partnership, each learner pays attention also to the learning agenda and learning style of the other. In principle, this mutual concern should benefit the tandem partnership as a learning unit and thereby each learner as an individual.

Clearly, this mutual concern is most straightforwardly manifested as a *shared* concern for the conduct of the tandem partnership in its various aspects. We might expect, then, that partners who have fully taken on board the principles of autonomy and reciprocity would together address issues concerning the way in which the partnership is to proceed, expressing their own understanding and wishes and ne-

gotiating an agreed agenda and plan of action. Beyond this first step, we might also expect to see evidence of monitoring, evaluation and perhaps revision of these informally established terms of the partnership.

Negotiation and co-ordination at this level are manifested in the data as a particular kind of metatalk, which we will refer to as tandem-related metatalk, that includes:

- discussion of error-correction procedures and conventions (including requests to correct errors, reminders about error correction, etc.);
- thematic content of correspondence – i.e., what to talk about;
- attitudes towards and expectations of the tandem programme;
- linguistic content of the correspondence;
- frequency of correspondence;
- technical operation of correspondence.

It must be stressed that the kind of metatalk we are concerned with here refers to the correspondence or partnership in general; to take error correction as an example, tandem-related metatalk on this topic will pertain to general principles or preferences regarding the error correction process, and not merely to this specific message or that particular sentence. Since induction sessions stressed the reciprocal and pedagogical nature of the framework, it is not surprising that all but one partnership yielded at least one instance of this kind of talk (the exceptional exchange here was #7).

4.4.1 Expectations, linguistic content, frequency and technical aspects

Metatalk in the sample relating to attitudes towards, and expectations of, the correspondence, occur in three exchanges. These examples never amount to a discussion; in only one case is there an actual exchange of turns on the topic:

#4 Ge

Bitte schreibt mir zurueck und uebermittelt mir Euere Wuensche und Vorstellungen von dem Tandem-Projekt.

Please write back to me and let me know your wishes and the ideas you have about the tandem project.

#4 Ir

I think I am very lucky to have this opportunity to continue learning

German, and the Tandem e-mail project seems like a really good way of learning "real" German, the language people really speak.

The other two comments in this vein, in exchanges #17 and #19, similarly express enthusiasm about the project, with the German partner of #17 identifying the opportunity to get to know one's partner as an attraction of the programme, along with that of improving one's English.

Three exchanges have instances of talk about the linguistic content of the exchanges, but here there are no instances at all of a full exchange. In each case one partner makes a point that elicits no response. Only one of these instances shows careful consideration by a student of what kind of language he would like to see:

#4 Ge

In your letters please use your "daily" language not the language you use if you write exams for example because I'[m] interested in learning YOUR language. – Please don't try to simplify your words or expressions. If I don't understand anything I will tell it to you.

The other two examples, in exchanges #9 and #18, are simply short (one- and two-sentence) reminders that correspondence should be bilingual.

Talk about desired frequency of correspondence occurs in six exchanges, but in only one case is there an exchange of turns between the partners on the subject:

#23 Ge

Since I'm really busy with working part time and studying I'll be able to write you once a week (usually on wednesday mornings, I suppose). Will that be O.K. for you?

#23 Ir

I will only be able to write to you once a week because I have no free time (I have 36 hours per week in University).

Talk about technical aspects of how the correspondence is to be conducted occurs in three exchanges; two of these instances (in exchanges #8 and #21) consist simply of the observation that German vowels with a diacritic (ä, ö, ü) will be replaced by their conventional digraph equivalents (ae, oe, ue) due to perceived technical difficulties. The other instance (#3) concerns the intention to use (and, subsequently, difficulties with) the e-mail attachment mechanism. This was in a case where the Irish partner was attempting to send the main

message as a Word document. The paucity of data of this kind suggests nothing more than that the technology of e-mail was found to be adequately transparent by the students sampled.

4.4.2 Discussion of error correction

Slightly more than half of the instances of tandem-related metatalk (38 out of 70) relate to error-correction; again, this is not surprising, given that much emphasis was placed on this topic in the induction sessions. Note that we are not looking here for a correspondence between discussion, in general terms, of error correction, and the quantity, quality or type of error correction that was actually carried out; there does not, indeed, seem to be any clear-cut correspondence between type and (pedagogical) quality of corrections and discussion of procedures. In a number of instances where a concrete suggestion was made on how to deal with correction, it was implemented inconsistently.

The range of ways in which the issue of error correction is treated seems to reflect a spectrum in the degree of engagement with it. Thus, at the most basic level, we find many brief allusions to the need for corrections and requests for correction that never issue in further discussion:

#9 Ir

ich weiss das mein Duetsch nicht so gut ist – bitte, Korrigiere meine Fehler! [...].

So, habe also auch bitte keine Probleme damit, in diesem Text Fehler zu finden, und zu verbessern.

I know that my German isn't that good – please, Correct my mistakes!
[...]

So, please don't worry either about finding and correcting mistakes in this text.

#11 Ge

Please improve my mistakes in your next mail.

Ir

Your English is brilliant, so I probably won't have to spend too much time correcting your e-mails. If possible, could you correct my mistakes for me please.

#14 Ge

If it's not too difficult for you, please correct my faults in in this letter.

Ir [referring to preceding corrections]

Hoffentlich ware das hilflich fur Dich – kannst Du es vielleicht fur mich auch bitte machen?

Hopefully that was helpful for you – can you perhaps do it for me too?

#15 Ge

Ich würde mich freuen, wenn Du ALLE MEINE FEHLER korrigieren koenntest.

I'd be glad if you could correct ALL MY MISTAKES.

Ir

There were no mistakes in your letter but I'd be very grateful if you'd correct mine for me.

#18 Ir

Oh Ja, es gefällt mir wenn Du meine Fehler sagen konnte.

Oh Yes, I like it if you could tell me my mistakes.

#20 Ir

I have been told that I should try to correct some of your mistakes.

While each of these examples shows a consciousness of the need for error correction, and while error correction of different kinds and levels of sophistication went on in each of the exchanges cited, they can scarcely be considered attempts to initiate a discussion of the process. This suggests that these students, as well as those who did not mention the process to their partners at all, either gave little consideration to the practice of error correction, or saw no benefit in discussing it in any detail with their partner (perhaps assuming that an appropriate pattern would emerge of its own accord), or both.

Further along the spectrum of apparent engagement with the issue of error correction are instances where partners negotiate, or attempt to initiate negotiation of, basic error-correcting procedures:

#4 Ge

I'm trying not to use a dictionary when I write my letters and because of that it is obvious that I will make a lot of mistakes. Please be not ashamed of correcting me!!!

Ir

Is the way I corrected your (very few) mistakes alright with you?

Ge

[Es freut mich,] wenn Du mir schreibst was ich falsch mache. [...]

Schreibe mir doch bitte, auf welchem Gebiet ich Dich korrigieren kann, da mir ausser ein paar kleinen keine grossen Fehler aufgefallen sind.

[I would be glad] if you would write and tell me what I do wrong. [...] Please write and tell me what area I can correct you in, since other than a few small ones I haven't noticed any big mistakes.

#5 Ir

Feel free to correct the mistakes

Ge

You asked me to correct your mistakes: It's a great idea to do so. Thereby it is better to improve one's translations.

Therefore I send back your written letter by the "reply" figure.

[...]

I would be glad to get another message from you, and it would be nice when you also correct the mistakes.

Ir

I will also correct your mistakes by reply form. Thanks for correcting mine, it is very helpful for me.

#10 Ge

Do you want all mistakes corrected in the future also the smaller ones? We have discussed it in the last semester, what's the better way referring to demotivation and so on?

I will do the corrections in brackets.

Ir

The way you correct it suits me fine.

#13 Ge

Um uns gegenseitig zu verbessern, könnten wir eine Kopie des Briefes machen, die Fehler korrigieren und uns das mit dem nächsten Brief zuschicken.

In order to correct one another, we could make a copy of the letter, correct the mistakes and send it along with the next letter.

#16 Ge

Was die Korrekturmöglichkeiten anbelangt schlage ich vor, die jeweils letzte Mail orthographisch und grammatisch unter dem betreffenden Fehler zu verbessern.

Zum Beispiel: Im looking forward to your first mail. looking forward
As to ways of correcting I suggest that in each case we make orthographic and grammatical corrections of the previous mail beneath the corresponding mistake. For example: Im looking forward to your first mail. looking forward

#17 Ge

Bisher haben wir uns in den Briefen noch gar nicht verbessert, ich fange einfach mal damit an.

Up to now we haven't corrected each other in our letters at all, I'll just go ahead and start doing it.

Ir

If you like I could correct your English underneath the text you have written so that you can see what sentence I am referring to.

#19 Ge

Hast Du bestimmte Vorstellungen wie wir diesen Briefwechsel gestalten sollen? Wie sieht es zum Beispiel mit Korrekturen aus? Möchtest Du welche haben? Ich würde mich freuen, wenn Du kurz auf die Fehler bei mir eingehen könntest, die Dir am stärksten aufgefallen sind.

Do you have particular ideas about how we should arrange this correspondence? What about corrections, for example? Do you want any? I'd be glad if you could go briefly into the mistakes of mine that you found most striking.

Ir

As regards correcting your mistakes I am glad to inform you that they are few and far between!! [...] I'm afraid I'll cause you a lot more trouble when you're correcting mine.

#21 Ir

Ich glaube, dass wir diese Briefe korrigieren soll. Wie können wir das am besten machen? Vielleicht, wenn wir ein e-mail korrigieren und dann noch eine neue e-mail schicken?

I think we're supposed to [possibly meant: 'we should'] correct these letters. What's the best way to do that? Maybe if we correct an e-mail and then send another new one?

#22 Ge

[...] deutsch ist meine Muttersprache, also mach dir keine Sorgen, ich werde deine deutschsprachigen e-mails korrigieren, sollte dies der Fall sein. Ich hoffe, du korrigierst mein englisch auch, natürlich nur, wenn du tatsächlich Lust hast, Tandem mit mir zu machen.

[...] German is my native language, so don't worry, I'll correct your German-language e-mails, if it's needed. I hope you'll correct my English too, only, of course, if you really do want to do tandem with me.

Ir

I look forward to your reply and we can decide on a format for correcting each other's (I mean my mistakes as your English is great).

Beyond this degree of engagement with the topic, there is one exchange that displays sustained consideration by both partners of how to go

about error correction:

#3 Ir

About corrections of each other's emails: maybe you would suggest a way that is convenient for you in your next email?

Ge

About corrections of each other's email: If there is a sentence we don't understand or we aren't sure of the meaning, we could explain two or three different uses or meanings of this sentence. In this case here, [refers to an instance in the same message where he has used this technique]

If that isn't convenient for you, write it down in your next letter. This was just my first idea. At the end of the letter I will write a list of vocabulary which you spelled wrong or which you used in a ambiguously way.

Ir

Es ist mir egal, wenn Du meine ganzen Fehler nicht korrigieren kannst. ;-) Vielleicht soll ich sagen, daß meine Grammatik nicht gut ist, auch daß mein Wortschatz nicht umfassend ist. Vielleicht soll das helfen, meine Fehler zu verstehen.

I don't care if you can't correct all my mistakes. ;-) Maybe I should say that my grammar isn't good, also that my vocabulary isn't extensive. Maybe that [will] help you to understand my mistakes.

Ir

I haven't corrected some minor errors. I corrected the most important. Would you prefer me to correct all the mistakes I can find? They don't amount to very many, really.

Error correction is the central overtly pedagogical element of a tandem partnership. What the foregoing overview suggests is that, while there is clearly a conviction among the students sampled that correction should take place, this consciousness does not often go beyond the individual partner to become a *shared* focus of attention and discussion within the partnership. This crucial component mediating the pedagogical dimension of the tandem system is not receiving the degree of explicit attention one assumes it merits. If we concur with the view that the key strength of tandem learning lies in the negotiation, and hence making explicit, of pedagogical assumptions, since this in turn necessitates reflection by the individual on his or her language learning, then we might be inclined to view the data presented with some degree of disappointment. On the other hand, if we apply more realistic standards, rather than using the archetypal autonomous stu-

dent as yardstick, the extent of some students' explicit concern with the overtly pedagogical element of the exchange, error correction, is in fact most encouraging.

4.4.3 Discussion of thematic content

Instances of tandem-related metatalk concerning proposed thematic content of the correspondence occur in eight exchanges. It is evident that German partners were more likely than the Irish participants to make suggestions as to possible topics. It is also noteworthy that in no case at all did any partner respond to topic suggestions, either by expressing agreement with those proposals or by making alternative suggestions. The question of discussion topics, we might say, proved an unproductive discussion topic. Hence, all instances of this kind of metatalk are initiatives; there are no further turns taken in the discourse on this issue. In addition, a great many topic suggestions are at or near the beginning of the correspondence in which they occur. It is true that many topic suggestions are so broad as not to invite much response. For example, when the German partner of exchange #14 writes:

[...] it will be very nice of you if you'll write me about yourself, where are you living, what do you like to do and so on

her Irish counterpart (implicitly) accedes to this and answers her questions; but the suggestion has not been framed in such a way as to elicit further proposals about what might be discussed subsequently in the exchange. This is not true, for instance, of the following, from exchange #12, in which the German partner writes:

Please write a few questions which you are really interested in. I do not want to write things like "my hobbies are reading and swimming", things which are not really interesting for you.

In her response, the Irish partner appears to accede to this request, asking:

How long have you been studying in Bochum? Could you maybe tell me a little about Bochum and the university next time? How is it that you only have to come to the university so seldom?

Though the German student's topic proposal is framed in a way that seems to invite comment, the Irish student does not carry further the theme introduced by the request itself. She might have done so by, for example, agreeing that they should avoid hackneyed topics, or ex-

pressing her own preferences in this regard. Similarly, the disarmingly honest opening of exchange #19, by the German student, does not entice her Irish partner into a discussion of what they might talk about in the course of their correspondence:

#19 Ge

I'm a bit nervous because I'm not so sure what I should write to you. After all, I don't know anything about you yet, and I don't want to write something stupid. (Although I fear I've a talent for THAT... 'Hello tandem' [the subject line of the e-mail] speaks for itself :-) [...] Es waere nett, wenn Du mir ein wenig ueber Dich erzaehlen wuerdest. Wofuer Du Dich interessierst, Dinge die Dich in den Wahnsinn treiben, warum Du in diesem Tandemprogramm bist...
It would be nice if you would tell me a little about yourself. What you're interested in, things that drive you mad, why you're in this tandem programme...

Even some very specific topic proposals, like this one from #22 Ge, meet with no comment of any kind:

I hope that I've helped you with this informations. I will look forward to find another ones, from special newspapers. You could write me, if you are more interested in political, juridical or financiar news.

#24 Ge suggests a framework for the future content of the correspondence. When his Irish partner tells him that she must sit an examination in Economics, he writes

You know [...] I've not either a project to make in our english-course – thank you for wanting to help me –, so I propose that we choose a thema every week or every two weeks we can speak about. For the next two weeks I propose Wirtschaft. [...] Also schreib genau das, worüber du Prüfungen ablegen mußt.

For the next two weeks I propose Economics. [...] So write exactly what you have to do tests about.

When he receives no e-mail after three days, he makes an attempt to elicit a response to his suggestion:

Falls du ein anderes Thema vorschlägst, als das, daß ich vorgeschlagen habe, bin ich damit einverstanden. Ich bin nicht sehr scharf darauf, mit dir unbedingt über Wirtschaft zu sprechen, aber es könnte dir helfen, über irgendein Wirtschaftsthema, das du für die Prüfung vorzubereiten hast, zu schreiben.

If you suggest another topic than the one I suggested, it's alright with

me. I'm not necessarily very keen to talk about Economics with you, but it could help you to write about some topic in Economics that you have to study for the test.

Though the correspondence continues, this topic is not addressed any further.

The absence of negotiation over the possible content of the exchange suggests strongly that many of the students sampled regarded such talk as unnecessary. This in turn suggests that they felt that topics of conversation would, or should, suggest themselves automatically within an exchange, i.e., without needing to be planned or otherwise discussed. This is, of course, a characteristic one expects of ordinary day-to-day conversation. However, anecdotal experience with informal, unsupported pen-pal arrangements, as well as our own experience with a previous, more loosely-organized tandem programme, suggests that one cannot necessarily expect this natural evolution of conversation between two people using an unfamiliar medium, who are previously unknown to one another, and whose only guaranteed common interest is the fact that they are both attempting to learn a language.

4.4.4 Control and critical detachment

Taken together, the various kinds of metatalk discussed in subsections 4.4.1 to 4.4.3 comprise all the available evidence of attempts by students to critically detach themselves from the tandem exchange itself, to make it an object of discussion and negotiation in itself, and hence to take shared control of it. The foregoing discussion makes it evident that this kind of critical discourse occurs only sporadically in the data and, more often than not, does not amount to a mutually constructed discourse. Rather, it often comprises isolated and unsuccessful attempts by one partner to initiate some kind of discussion on one or other aspect of the exchange.

It seems clear that discourse of this kind would indicate the critical detachment from the learning activity that is a key characteristic of the autonomous learner. If it is not strikingly in evidence in this data, we are not necessarily justified in supposing that autonomy is underdeveloped in the sample population or in individual learners. The evidence does support the view, however, that this autonomy is manifesting itself only weakly or, in some cases, not at all, on the level of the *partnership*. From this we might conclude that the reciprocal nature of

the tandem scheme needs in future to be further emphasized in the induction phase. Induction sessions might also stress that real reciprocal interest in the learning partnership is bound to require *explicit* consideration by both partners, in the form of discussion and/or negotiation, of how the correspondence is to be conducted in salient respects.

These observations must be qualified, however, in light of the circumstances of the tandem programme. As noted in section 2, there were tight constraints on the time that was available for regular contact between partners: the primary factor was of course the limited overlap between academic calendars in the two institutions. The unexpected student strike in Germany extended the hiatus of the Christmas vacation. These factors, together with the inevitable student dropout that occurs in extracurricular courses, conspired to cause great discontinuity in correspondences. Such discontinuity is clearly the enemy of a regular, focussed correspondence between even the most motivated of students. Even so, it seems almost certain that most international e-mail tandem programmes will come up against similar challenges, both foreseeable and unforeseeable. Coming to terms with them, we would argue, is largely a question of raising the students' awareness of the obstacles and of emphasizing the importance of remaining focussed, nonetheless, on the pedagogical and reciprocal nature of tandem learning.

4.5 Error correction

4.5.1 Conventions

Apart from two exchanges, most of the corrections were kept separate from the discursive content. Students used a number of different models of correction. Twenty (10 German/10 Irish) students used interlinear models, and 19 (10/9) used intralinear models. There were also 13 (7/6) students who rewrote whole letters, and 3 (2/1) students who chose to correct by paragraphs.

In terms of typographical highlighting, there was much diversity. 14 students (8/6) used the reply function of their e-mail program to automatically highlight the original message with arrows (>), 12 students (6/6) used parentheses, 8 students (4/4) used inverted commas to highlight the correction, 5 students (2/3) used a dash, 4 (2/2) used asterisks, 3 used words or phrases to distinguish between original

and correction, such as *NOT*, *false*: .../right: ..., *besser*: ..., etc., 2 used spaces/tabs in interlinear correction to include a correction right under the original, 2 used a separate font colour (red) provided by their e-mail program to denote the section they had corrected, one of these also included the strike-through effect, and one student numbered the errors.

The three most widespread models of error correction were: an interlinear model using the default reply function of the e-mail program (inserting the original message with >), which was practised in 8 exchanges; a model using a partial or complete rewriting of the original (mostly without typographical highlighting) in 8 exchanges; and an intralinear model using parentheses, which was practised in 6 exchanges. One exchange did not contain any corrections, and in 4 other exchanges only one partner corrected (1 Irish/3 German). Of the 18 remaining exchanges, 11 tandem pairs quickly agreed on a common model for correction, to which they kept throughout the exchange.

4.5.2 Level of corrections

While it may be useful to have a look at the errors that were corrected, it may be more appropriate to compare these with the actual errors that occurred in the messages. In other words, were the corrections appropriate compared to the actual deficits that students displayed in the L2? Did they cover major and minor problem areas, or did they focus on certain errors alone?

A close analysis of errors and corrections shows that an overwhelming majority of students were able to identify each other's deficits appropriately. Out of 42 students who corrected their partners, 29 quite adequately identified major and minor problem areas compared to the actual deficits students displayed in their messages. There were very few instances where students focussed on certain problem areas alone.

There were no detectable differences regarding corrections between German native and non-native speakers. It has to be said, however, that non-native speakers like #14 Ge to a lesser extent and #18 Ge to a greater extent displayed some problems in German (#18 Ge uses German only once during the exchange, and his partner even asks him to write more German).

4.5.3 Generalizations across the language system

In this section, we consider whether students generalized their partner's errors across the language system, and whether

examples or explanations were given for a certain rule.

A frequent observation is the use of umlaut in German, as many Irish students had difficulties accessing these in their e-mail program. #1 Ge mentions that #1 Ir should use "oe", instead of "ö", if her e-mail program does not transmit these. This is picked up by #1 Ir. Similar discussions can be found in other exchanges. Apart from this, there are very few generalizations. #1 Ge mentions that Wörter mit den Endungen -ung, -keit oder -heit werden großgeschrieben, a useful and appropriate "rule of thumb" that is picked up by his partner later. #1 Ir is less successful:

Usually you don't put the past perfect and a time clause together. I only just noticed that!

which was an inaccurate observation, as her partner was using the present perfect. She also warns him not to adopt a contraction she used, "amn't":

Oh! "amn't" is *not* really a word at all. Don't use it trying to get a job or anything. It means 'am I not' and it's origins are lost forever [thank God]. It's only used in describing the first person singular.

Another generalization is made by #3 Ge. His exchange with #3 Ir contains a number of (mostly incorrect or incomplete) metalinguistic comments. Thus he says rightly:

Im Englischen ist antworten und beantworten glaube ich beides als answer zu übersetzt. Im Deutschen muß man hier unterscheiden.
I think antworten and beantworten are both translated into English as answer. In German it is necessary to make a distinction.

While he is unable to give the grammatical reason for this (transitive vs. intransitive verb), he gives two examples that show their use. In general, however, these observations are not very frequent in the exchanges.

4.5.4 Generalizations across interlanguage

It is considered very difficult for students to generalize errors across their partner's interlanguage, and many of them refrained from attempting to do so. However, in our corpus of e-mails we found several instances where students tried to identify their partner's major linguistic deficits. Again, these will be discussed in comparison to their actual problem areas.

Generalizations across the partner's interlanguage are much more frequent than the generalizations across the language system discussed in the previous section. Very often we can find general comments applauding the partner's L2 proficiency.

#3 Ir is quick to identify some of #3 Ge's major deficits:

Your errors are generally small ones, and confined to expression.

This is confirmed in her last letter, where she says that his errors tend to be matters of usage, which is a correct observation. Throughout this exchange, both partners become very conscious of using L1 word order:

#3 Ge

I think many mistakes from me show that a write a little like a German. Probably now too. And some of the sentences you wrote in German sound like English

Indeed, using L1 word order is one of their major problems. #4 Ir says about her partner's English:

The only general comment I can add is that your tenses are a bit mixed up

although this is a minor problem for #4 Ge, and she should also have mentioned his major deficit, idiomatic expressions.

#7 Ir correctly identifies her partner's major problem area of spelling:

Ich treibe ein paar korrigierungen zu machen, sie sind nur fauler bei buchstabierung

I'm going to make a few corrections, you're weak [lazy?] only in spelling

although she maintains that this is her only deficit. #8 Ge focuses on #8 Ir's deficits in idioms when she says:

manches würde man nur etwas anders ausdrücken, auch wenn es so, wie Du es geschrieben hast, richtig ist ... The way you speak might be correct in a formal sense but nobody who learned the language as his mother tongue would use these constructions or words.

some things would be expressed slightly differently, even though what you have written is strictly correct ...

Again, this only sums up part of #8 Ir's problems and ignores her deficits in spelling, punctuation, and case formation. #12 Ge, in her exchange with #12 Ir, correctly identifies her deficits in gender:

Mir fällt auf, daß Du manchmal falsche Artikel verwendest.
I notice that you sometimes use wrong forms of the article.

#19 Ir mentions #19 Ge's problems with L1-L2 transfer:

Your English is excellent, just a few slight errors where your English is correct but the phrase just does not translate directly into English from German

– an incorrect generalization, as she displays many more errors in spelling. #23 Ge mentions #23 Ir's problems with gender:

The only thing is that you don't mind the gender of the words

but this is only a minor problem in view of his serious deficits in spelling, idioms, word order, and prepositional phrases. #24 Ge focuses explicitly on #24 Ir's major problem with prepositional phrases and explains to her in detail the difference between accusative and dative case.

It is difficult to make a final statement about the generalizations that were made by students across their partners' interlanguage, beyond saying that some were accurate and helpful and were picked up later in the exchange, while some were incorrect or incomplete.

4.5.5 The use of metalanguage

Language learners are not expected to have the appropriate metalinguistic skills to correctly identify, categorize, and analyse their partner's errors. Yet many students used metalanguage during their exchanges, as indicated in 4.5.3 and 4.5.4 above. Were these students able to identify metalinguistic categories correctly and were they able to communicate these to their partners? Some examples may again illustrate the results.

#1 Ge accurately announces his switch to the German perfect tense:

I want to write now in perfect form, because if you read this e-mail, it will be after the 5. January 1998.

#3 Ge explains at length the difference between *Verstehen* and *Verständnis* and is right in his assumption that the noun *Verständnis* is not derived directly from the verb *verstehen*. However, when he cor-

rects #3 Ir's error, *Ich kann die Umlauten auf ... nicht finden*, he views it as a problem of plural formation and is unable to identify the real problem, which is verb-object agreement, although he gives some sample sentences. In another message he is partly right, when he explains that the German word *Arbeitslosigkeit*, which #3 Ir had used in her phrase *in Irland gibt es viele Arbeitslosigkeit*, should be used differently. He says that it has a plural meaning. You only have to use the singular form of *viele*. This is misleading, since *Arbeitslosigkeit* does not have a plural form. The real problem here seems to be that *viel*, when used with zero-article and abstract nouns, can be used without morphological changes. As mentioned before, #24 Ge tries to explain the use of different cases in prepositional phrases. While he is able to distinguish between dative and accusative case, he suggests that all accusative endings are *-en* and all dative endings are *-em*, which is incorrect: the ending is determined by case, number, and gender.

Again, we can summarize by saying that while some students were able to give helpful explanations using some form of metalanguage, many metalinguistic comments were incorrect or at best incomplete.

4.5.6 Attention to correction/feedback

There are very few indications that any corrections were picked up or recycled in the course of the exchanges. In many cases, the re-use of incorrect forms indicates that there was no conscious effort to use the corrected forms later on.

Thus, although #8 Ge explicitly refers to her intention to recycle corrections:

Thank you for your corrections, I hope not to make the same mistakes next time (but honestly I'm very good in forgetting such things ...)

there is only one noticeable effort to re-use corrected words or phrases, which is the misspelling of *beautiful* in the same letter. In the exchange between #9 Ge and #9 Ir there is only one noticeable effort at recycling previous errors: on 21 Jan 1998 #9 Ge uses *I am sitting* instead of *I am seating*, which had been used in messages on 2 Jan 1998 and 13 Jan 1998 (the first instance had been left uncorrected by #9 Ir). On the other hand, neither seems to notice that #9 Ir corrects the misspelling of **holliday/*hollydays* twice.

#10 Ir probably did consciously recycle some of #10 Ge's corrections. An example is the word *Thema* which first appears as **Theme* (4 Dec 1997), is then corrected on 18 Dec 1997, and reused as *Thema* on 13

Jan 1998. A second example is the form of address *Lieber* (#10 Ge). She writes *Liebe* #10 Ge (20 Nov 1997), which #10 Ge corrects (26 Nov 1997), then she writes *Lieber* #10 Ge (4 Dec 1997), returns to *Liebe* #10 Ge (13 Jan 1998), which he corrects again (without mentioning the repetition) on 20 Jan 1998, and she switches again to *Lieber* #10 Ge in her last e-mail (20 Jan 1998). Another example is *Projekt*, misspelled by #10 Ir as **Projekt* (13 Jan 1998), corrected by #10 Ge (20 Jan 1998), recycled correctly by #10 Ir (20 Jan 1998).

#14 Ge and #14 Ir try to re-use corrections on three occasions. #14 Ge uses #14 Ir's correction of **Irland* to *Ireland* (19 Nov 1997) in her next message (25 Nov 1997). #14 Ir uses #14 Ge's correction of **Facher* to **Fachern* (adding the dative plural *-n*, which has to be added if the nominative plural does not end in *-n* or *-s*) from 25 Nov 1997 twice in her message on 28 Nov 1997 (although both still ignore the missing umlaut – **Fachern* should be *Fächern*). #14 Ir also picks up an apparent error in gender which was corrected on 25 Nov 1997, from *wegen des tollen Partys* to *wegen der tollen Party* (feminine genitive singular does not have an *-s* morpheme) in her e-mail on 6 Feb 1998: Gestern ging ich zu einer Party der siebziger Jahre, Sie war toll.

Another interesting re-use of corrections is made by #22 Ir, who very consciously recycles material from #22 Ge's message on 17 Nov 1997. He adopts the spelling of *positiv* and *Europäische Gemeinschaft*, though he ignores the previous correction of *Perspektive*. He even copies the whole structure of a main clause: *die Inflation darf auch nicht mehr als ... betragen* in his next e-mail (25 Nov 1997). Thus, there are some indications that corrections were reused in later messages, but in many cases the amount of material is insufficient to make any further claims.

4.5.7 Accuracy of corrections

In general, corrections were accurate, but students should be encouraged to use spell checkers, as many mistakes could be avoided that way. The expertise of native speakers was at no point doubted by non-native speakers. German native speakers from Russia and Romania emphasized their proficiency when introducing themselves. Some non-native speakers of German who had obviously acquired a high degree of proficiency were well able to give corrections, although their German input was sometimes weak (cf. 4.5.2 above). The accuracy in metalinguistic comments was only partly successful and examples of these have been treated in section 4.5.5.

Most of the inaccurate corrections are spelling mistakes. Thus, *proof* (verb) is corrected to **prove* (#8). Other examples of inaccurate corrections include wrong lexical items. For instance, the word **müdlich*, which was "invented" by #1 Ir, was corrected by #1 Ge (a German non-native speaker) to **ermüdlich* (25 Feb 1998). A strange example is produced by #3 Ge, who corrected his own German L1 input. When his partner includes (*groan*) as a comment, he picks that up as an expression that also exists in German: *das ist total ächzend* (14 Jan 1998). In the following e-mail, he corrects this mistake to *ätzend* (26 Jan 1998). Throughout the exchange, #3 Ge frequently alludes to problems of German/English transfer; this may also be the source for his mistake here.

#8 Ir corrects #8 Ge's *writing program* to *writing programme*, with the comment (program is the american spelling) (3 Jan 1998), but *program* is also the British spelling in the context of computer software. There are also mistakes that can possibly be explained by dialectal differences. *Ich bin nach meine Heimstadt Ballina gefahren* is corrected to *Ich bin zu meiner Heimatstadt Ballina gefahren* (#6 Ge, 26 Jan 1998). The original preposition, *nach*, is correct here (geographical location), but *nach* and *zu* are used synonymously in some areas around Bochum. However, on the whole these mistakes are infrequent, even among non-native German speakers.

4.5.8 Conclusion – tandem principles in error correction

When we look at the tandem principles of reciprocity, learner autonomy and bilingualism, the results are encouraging. We have seen that about 90% of all messages are bilingual, and that most of the messages seem to contain similar amounts of L1/L2 input over the course of the exchange. In terms of reciprocity, we can say that students spent considerable time on corrections and in many cases tried very hard to give as much support as they received. In many exchanges the equal position of both partners as learners of a foreign language played a major role in establishing a true partnership. In tandem language learning, learner autonomy entails that learners take responsibility for their own and for their partner's learning. Many exchanges show that students were fully aware of the fact that in order to make the partnership a continuing success, they had not only to negotiate common procedures for correcting one another, but give mutual support on a number of levels. In many cases, this support was much greater than anticipated in our induction workshops at the

beginning of the exchange. It shows that tandem principles can indeed form the framework for a successful learning partnership.

5 Conclusion

by David Little

5.1 What we learned from the project

At an organizational level, the project confirmed what the pilot project of 1996-7 had already taught us: that even with very carefully controlled structures, it is impossible to guarantee a trouble-free tandem partnership for every student who participates in a bilateral scheme of the kind we devised. In making this point it is important to emphasize the considerable lengths to which we went in order to create, both in Dublin and in Bochum, a larger pedagogical framework that maximized the relevance and potential benefits of tandem learning by e-mail. No doubt some of the difficulties our students experienced derived from the extracurricular status of their language courses: especially in the early stages, partnerships were vulnerable to student drop-out. Although one would expect this problem to be less serious in the case of language courses that are an integral part of students' larger programme of study, our experience suggests that bilateral tandem partnerships will always be exposed to organizational problems, some of them impossible to predict.

The affective data we collected from some of our students confirmed that on the whole they found the idea of tandem language learning by e-mail congenial, not least because it involved them in modes of language use that seemed to them significantly different from anything offered by their previous language learning experience. It is gratifying to note that what they found especially appealing and motivating about e-mail tandem learning had to do with a sense of personal ownership of the content and process of learning.

The linguistic data we collected from our students showed that they understood the principle of bilingual communication: the great majority of their e-mails were written half in English and half in German. There was some tendency for messages to conform to international e-mail conventions in their use of an informal register and non-standard punctuation. The explicit focus on learning that tandem part-

nerships are intended to promote implies that messages should contain a relatively high proportion of metatalk as learners negotiate themes for discussion and provide one another with corrective feedback. However, instances of metatalk occur only sporadically in the data, and fewer than half of all messages contain instances of error correction. This suggests that more needs to be done to persuade students that critical reflection should play a central role in their language learning (as also in their studies generally). At the same time, our data show that when students did correct one another, they took pains to make their feedback as clear and effective as possible. The fact that some of the feedback was inaccurate should not worry us unduly; for as Appel's (1999) research suggests, it is through giving rather than receiving feedback that learners' metalinguistic awareness is most tellingly sharpened and refined. An improved system of support for e-mail tandem language learners might nevertheless include regular consideration by the whole class of the feedback they have received as well as given.

We certainly cannot claim that the project reported on in this paper has shown us how to overcome all the organizational difficulties and solve all the pedagogical problems that confront bilateral e-mail tandem courses. But we can claim plenty of evidence to support the view that e-mail tandem partnerships offer a uniquely powerful support to language learning and plenty of encouragement to undertake further research and development.

5.2 Future developments

In attempting to implement the improvements suggested by our empirical findings, we decided to focus on two areas of development in particular: the creation of a dedicated Web environment for e-mail tandem learning and much fuller use of the MOO to give tandem partnerships a real-time dimension. Both developments were prompted equally by pedagogical and research considerations.

On the pedagogical front, our data suggest that although students perceive e-mail tandem partnerships as a beneficial and enjoyable way of learning a language, they easily drift into a pen-friendship that lacks the critical focus fundamental to tandem learning. One way of emphasizing the distinctive nature of e-mail tandem language learning is to create a dedicated environment in which it may be pursued, quite distinct from ordinary e-mail. To this end Christine Appel and Tony Mullen are developing a Web-based program that makes use of CGI (Common

Gateway Interface) scripting to allow messages to be exchanged through the medium of the Internet browser (Appel and Mullen 1998). The intention is gradually to add various kinds of administrative support for teachers and linguistic support for learners. On the research front, the creation of a dedicated environment for e-mail tandem learning will greatly facilitate the collection of empirical data and should allow us to explore various computational approaches to data analysis. Appel and Mullen's program can be accessed at <http://www.cs.tcd.ie/appelm/> and may be used at that site by colleagues in other universities who wish to introduce a tandem learning component into their language courses. All e-mails that pass through the site are automatically but anonymously collected for research purposes.

The MOO likewise allows us to develop various kinds of learner support and at the same time to automate the collection of empirical data. For the purposes of our bilateral project with Bochum, for example, Klaus Schwienhorst created a Tandem Learning Centre which offered students a variety of language learning tools -links to tasks and language learning resources on the Web, a conversation robot that could be programmed for simple vocabulary or grammar questions, and notice boards displaying information about tandem learning. He also developed a Tandem Counselling Office, which included various support tools, among them a "tape recorder" to facilitate counselling sessions and automate the collection of empirical data (Schwienhorst 1998).

The potential for developing and tailoring a virtual learning environment for our students has prompted us to set up our own dedicated MOO on our local server (this can be visited at <http://134.226.72.56:8000/>). This virtual environment is currently in the process of being piloted in a tandem project with Fachhochschule Rhein-Sieg, Bonn. While managing our own MOO brings with it additional administrative and technical considerations, it does give us the freedom to configure the system to our own pedagogical purposes, and to involve students themselves in the creation of new learning environments. We are currently focussing on the integration and extension of Web functionality, the management of larger groups or classes, and the implementation of shared resources for group-based work. This should facilitate the use of the MOO by other teachers.

References

Appel, M. C., 1999: "Tandem language learning by e-mail: some basic principles and a case study". CLCS Occasional Paper No.54. Dublin: Trinity College, Centre for Language and Communication Studies.

Appel, M. C., & T. Mullen, 1998: "A Common Gateway Interface for tandem language learning". Paper presented at the International Congress on Technology in Teaching, jointly organized by IATEFL Computer SIG, TESOL-Spain and Universidad Europea de Madrid, November 1998.

Boud, D., R. Keogh & D. Walker, 1985: "Promoting reflection in learning: a model." In D. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, pp.18–40, London: Kogan Page.

Ferrara, K., H. Brunner & G. Whittemore, 1991: "Interactive written discourse as an emergent register." *Written Communication* 8, pp.8-34.

Hightower, R., & L. Sayeed, 1996: "Effects of communication mode and prediscussion information distribution characteristics on information exchange in groups". *Information Systems Research*, 7:4, pp.451–65.

Little, D., 1991: *Learner Autonomy 1: Definitions, Issues and Problems*. Dublin: Authentik.

Little, D., & H. Brammerts (eds), 1996: "A guide to language learning in tandem via the Internet". CLCS Occasional Paper No.46. Dublin: Trinity College, Centre for Language and Communication Studies.

McMurdo, G., 1995: "Changing contexts of communication". *Journal of Information Science*, 21:2, pp.140–6.

Schwienhorst, K., 1998: "The 'third place' – virtual reality applications for second language learning". *ReCALL* 10.1, pp.118–26.

Ushioda, E., 1996: *Learner Autonomy 5: The Role of Motivation*. Dublin: Authentik.

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